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| 09/577,292 | 05/23/2000 | Alireza Abaye | 11470BAUS01U | 3517 |

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| EXAMINER | |
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| LY, ANH VU H | |

| ART UNIT | PAPER NUMBER |
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| 2667 | 11 |

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. 09/577,292 | Applicant(s) ABAYE ET AL. | |
|---|---|---|---|
| | Examiner Anh-Vu H Ly | Art Unit 2667 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12,14-43 and 45-63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,14-41 and 45-63* is/are rejected.

7)☒ Claim(s) *11,12,42 and 43* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Withdrawal of Finality*

1. The finality of the previous mailed rejected Office Action under 35 U.S.C. 103 on January 28, 2004 is withdrawn due to the common ownership, Nortel Networks Limited. However, this Office Action is made final due to amended claims filed October 27, 2003. Claims 1-12, 14-43 and 45-63 are currently pending.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-10, 14-17, 19-41, 45-46, and 48-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung et al (US Patent No. 6,515,964) in view of Reininger et al (US Patent No. 6,404,738). Hereinafter, referred to as Cheung and Reininger.

With respect to claims 1-2, 7, 14-17, 31-33, 38, 45-46, and 60-63, Cheung discloses in Fig. 2 a system for transporting voice signals over the packet network 140 (herein, the packet network comprising plurality of lines or buses), wherein the admission control gateway 100 receives a call request, which including the caller's identification information and the callee's identification information (the call request comprising an origination address for identifying an origination terminal and an identifier for identifying a destination terminal), from the first network 110 containing the call characteristic requirements (herein, the call characteristic requirements comprising one or more network resource as a resource candidate) (receiving a call

request for establishing a call and capable of affecting a network resource, the call request defining a throughput requirement). Cheung discloses in Fig. 5 that the call is sent through the packet-switched network when the network performance characteristics match the quality requirements of the call. Herein, before the communications begin over the packet-switched network, a notification is sent to the caller indicating that the call is accepted (transmitting a call admission response to the origination terminal when the throughput measurement response at least substantially matches the throughput requirement of the call request).

Cheung does not disclose transmitting a throughput measurement request, the throughput measurement request causing a trace packet to propagate between the origination terminal and the destination terminal and receiving a throughput measurement response in response to the transmitting of the throughput measurement request.

Reininger discloses (col. 11, line 33 – col. 13, line 41) an admission control algorithm wherein a request (throughput measurement request) is generated and passed along the nodes in the network (Figs. 8-9) (transmitting a throughput measurement request, the throughput measurement request causing a trace packet to propagate between the origination terminal and the destination terminal). Herein, each node in the network (Fig. 10) determines whether its capability of supporting the call and if the call is accepted, the bandwidth is reserved and the source is informed (receiving a throughput measurement response in response to the transmitting of the throughput measurement request).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the features of exchanging messages between the sender,

intermediate nodes, and the receiver in Cheung's system, as suggested by Reininger, to satisfy QoS of a requested call.

With respect to claims 3 and 34, Cheung discloses (col. 5, lines 3-12) that various call actions can be taken if the voice call can not be admitted to the packet switched network such as holding the voice call, sending the calling party a busy signal, providing the calling party the option of having the system call him or her back when the VoIP call can be admitted to the network, or rerouting the voice call over another network, such as a conventional circuit-switched network (selecting one or more network resources is based on the call admission response).

With respect to claims 4 and 35, Cheung discloses in Fig. 4, quality of service computer 320 for determining the network performance parameters (selecting one or more network resources is determined by usage policy of a policy server).

With respect to claims 5 and 36, Cheung discloses (col. 4, lines 26-30) that call quality requirements for the various performance parameters of the packet-switched network can be established to enable a higher quality of service for certain calls (throughput requirement relates to a perceptible quality of service).

With respect to claims 6 and 37, the limitation "throughput requirement is specified in a packet header" is inherent to Cheung. Cheung discloses (col. 8, lines 36-37 and Fig. 4) that the admission control gateway 300 receives the call from the initiator computer 310. From the

illustration shown in Fig. 4, the communicated messages between the gateway and the computer must be in the form of packets and furthermore, each packet is known to comprise the header and payload portion. Wherein, header portion is known for carrying controlled information.

With respect to claims 8-9 and 39-40, Cheung discloses a method and apparatus for dynamically controlling the admission of calls to a network, wherein call requests received at the gateway are containing call characteristic requirements. Cheung does not disclose throughput requirement complies with Diffserv Protocol and/or MPLS protocol. However, such protocols are known in the art for carrying the specified and/or requested parameters originated from the source and send along the path to the destination, including the intermediate nodes for setting up a connection with a guarantee quality of service. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of having the throughput requirement complies with such above protocols in Cheung's system to reserve network resources.

With respect to claims 10 and 41, Cheung discloses a method and apparatus for dynamically controlling the admission of calls to a network, wherein call requests received at the gateway are determined whether the call is admitted or rejected. Cheung does not disclose call request complies with SIP. However, SIP is known in the art for initiating and/or setting connections between two points in a network. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of sending call

request in accordance to the Session Initiation Protocol in Cheung's system to set up a connection.

With respect to claims 19-21 and 48-50, Cheung discloses (col. 5, lines 3-12) that various call actions can be taken if the voice call can not be admitted to the packet switched network such as holding the voice call, sending the calling party a busy signal, providing the calling party the option of having the system call him or her back when the VoIP call can be admitted to the network, or rerouting the voice call over another network, such as a conventional circuit-switched network (selecting an alternative resource as the network resource when the throughput measurement does not substantially match the throughput requirement of the call request; wherein the alternative resource comprising a switched telephone network and further comprising a dedicated communications link interconnecting devices).

With respect to claims 22 and 51, Cheung discloses (col. 5, lines 3-12) that various call actions can be taken if the voice call can not be admitted to the packet switched network such as holding the voice call, sending the calling party a busy signal (transmitting an alternative resource call admission response when the throughput measurement does not substantially match the throughput requirement of the call request), providing the calling party the option of having the system call him or her back when the VoIP call can be admitted to the network, or rerouting the voice call over another network, such as a conventional circuit-switched network.

With respect to claims 23-25 and 52-54, Cheung discloses (col. 4, lines 14-17) that the state of a packet switched network can be indicated by a number of performance parameters,

including total delay, mean and standard deviation for such delay, packet loss, error rate, etc ... (determining a condition of the network resource, wherein the determining including determining a delay in the throughput measurement in the network; wherein the determining including a percentage of packet loss in the network).

With respect to claims 26 and 55, Cheung discloses (col. 4, lines 14-17) that the state of a packet switched network can be indicated by a number of performance parameters, including total delay, mean and standard deviation for such delay, packet loss, error rate, etc ... (determining an expected quality of service based on the determined condition of the network resource).

With respect to claims 27 and 56, Cheung discloses (col. 8, lines 7-12) a determination is made whether a call request is accepted or rejected (performing call admission control to accept or deny the call request).

With respect to claims 28 and 57, Cheung discloses (col. 8, lines 7-12) that the network characteristic parameters data are determined (wherein performing call admission control is based on usage of a link in the network).

With respect to claims 29 and 58, Cheung discloses in Fig. 2, a system for admitting call between a first telephone device 111 (first terminal), coupled to the first network 110, and a second telephone device 191 (second terminal), coupled to third network 190. Herein, telephone

device 111 and first network are considered as first community, and telephone device 191 and third network are considered as second community. Wherein, first community and second community are connected via paths or links or channels of the IP network 140 (a link in the network for coupling the two communities).

Cheung discloses (col. 4, lines 14-17) that the state of a packet switched network (policy of the links of the IP network) can be indicated by a number of performance parameters, including total delay, mean and standard deviation for such delay, packet loss, error rate, etc ... (wherein performing call admission control includes performing call admission control based on a policy for the link between the communities).

With respect to claims 30 and 59, the limitation "bypassing the call admission control within at least one community" is inherent to Cheung. Since only one telephone device shows Fig. 2 for the purpose of illustration, if another telephone device couples to the first network 110, then two telephone devices can communicate via the first network 110 without the intervention of the admission control gateway.

3. Claims 18 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheung and Reininger and further in view of Vargo et al (US Patent No. 6,356,545). Hereinafter, referred to as Cheung, Reininger, and Vargo.

With respect to claims 18 and 47, Cheung discloses a method and apparatus for dynamically controlling the admission of calls to a network, wherein call requests received at the gateway are determined whether the call is admitted or rejected. Cheung does not disclose selecting one or more sizes of a data packet as candidates for carrying audio data in the requested

call. Vargo discloses in Fig. 3, an apparatus for managing calls in a system including an interface (NIC26) for receiving a call request to establish a call between two endpoints and a control unit (23 and 24) for processing the request and to control the selection of resource elements such as codec (col. 7, lines 27-35) or packet size (col. 7, lines 6-17). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of selecting one or more sizes of a data packet as candidates as specified in the requested call in Cheung's system, as suggested by Vargo, to accommodate quality of service of a call based on the usage or condition of the network.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-8, 14-17, 23, 27-29, 31-39, 45-46, 52, 56-58, and 60-63 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen et al (US Patent No. 6,487,170). Hereinafter, referred to as Chen.

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With respect to claims 1-3, 27-28, 32-34, 56-57, and 61-63, Chen discloses in Fig. 4, at step 410, sender application communicates its premium service bandwidth requirements to the network. The sender application may transmit a message specifying a desired level of service in terms of bandwidth or a token bucket filter (receiving a call request for establishing a call and capable of affecting a network resource, the call request defining a throughput measurement). Herein, it should be understood that the request including the address of the source and destination in order to establish a connection (the request comprising an origination address for identifying an origination terminal and an identifier for identifying a destination terminal).

In steps 420-430, the ingress edge device sends a REQUEST message (throughput measurement request) to host upon which receiver application resides. Herein, the request message traverses the path between the ingress edge device and the egress edge device (transmitting a throughput measurement request, the throughput measurement request causing a trace packet to propagate between the origination terminal and the destination terminal), the local

bandwidth brokers running in the intermediate nodes along the path evaluates one or more admission criteria for the data flow specified by the request message and reject or accept the request. Chen discloses (col. 9, lines 16-18) that a REJECT message may be sent upstream to the ingress edge device to indicate the node's inability to provide the request level of server (receiving a throughput measurement response in response to the transmitting of the throughput measurement request). Chen discloses (col. 9, lines 19-37) that if all the local bandwidth brokers can accommodate the request, then an ACCEPT message is sent back to the source of the REQUEST message. Herein, it should be understood that the source of the REQUEST message or the ingress edge device must inform the sender the status of the requested bandwidth requirements (transmitting a call admission response to the origination terminal when the throughput measurement response at least substantially matches the throughput requirement of the call request).

With respect to claims 4 and 35, Chen discloses (col. 7, lines 29-36) that the policy management process 345 is included in the edge devices. The policy management process 345 interfaces with the admission control process 340 to validate requests against one or more policies (selecting one or more network resources is determined by usage policy of a policy server).

With respect to claims 5 and 36, Chen discloses in Fig. 4, the sender communicates its bandwidth requirements to the network. Herein, the bandwidth requirements are correlated to

the quality of service of a call (throughput measurement relates to a perceptible quality of service).

With respect to claims 6 and 37, Chen discloses (col. 8, lines 48-51) that the sender application may transmit a message (throughput measurement is specified in a packet header) specifying a desired level of service in terms of bandwidth or a token bucket filter.

With respect to claims 7-8 and 38-39, Chen discloses in Fig. 3, the network device is a device in a DiffServ (throughput requirement complies with Diffserv protocol) network cloud (col. 5, lines 30-33). Chen further discloses (col. 9, lines 35-37) that RSVP signaling may also be supported (throughput requirement complies with RSVP).

With respect to claims 14 and 45, Chen discloses in Fig. 4 that a REQUEST message (throughput measurement request comprising at least one trace packet) is sent to the host upon which receiver application resides.

With respect to claims 15 and 46, Chen discloses in Fig. 4 that the REQUEST message traverses the path (trace route) between the ingress edge device and the egress edge device (throughput measurement request comprising a trace route).

With respect to claim 16, Chen discloses in Fig. 4 that the REQUEST message traverses the path between the ingress edge device and the egress edge device. Herein, the message

traverses the path including the bandwidth requirements of the sender application (trace route comprising a list of network resources).

With respect to claim 17, Chen discloses in Fig. 3A, that the request bandwidth is verified against node's capability (monitoring the network resources in the list to maintain the throughput requirement).

With respect to claims 23 and 52, Chen discloses in Fig. 3, the network device 300 comprising admission control process 340, policy 345, measurement process 350, etc...(determining a condition of the network resource).

With respect to claims 29 and 58, Chen discloses in Fig. 2A, the sender and receiver are separated located in two different networks (at least two terminals are defined in at least two communicates coupled by a link in the network). Chen discloses in Fig. 3, the network device accepts or denies the request by verifying the bandwidth available of the output link (performing call admission control includes performing call admission control based on a policy for the link between the communities).

With respect to claims 31 and 60, Chen discloses in Fig. 2A, that the sender, receiver, and all intermediate nodes are connected via links for sending and receiving control and data information (call request, throughput measurement request, throughput measurement response and call admission response is communicated over a data bus).

***Allowable Subject Matter***

5. Claims 11-12 and 42-43 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-12, 14-43 and 45-63 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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